

Notice of Allowability

Application No.

09/476,776

Examiner

Kim-Kwok CHU

Applicant(s)

SHIOMI ET AL.

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 9/21/2007.
2. ☒ The allowed claim(s) is/are 1,3,6,4,5,7-9,12,13 and 15-20 which are renumbered as 1-16 respectively.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An Examiner's Amendment to the record appears below.
Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.
2. The Amendment filed on September 21, 2007 has been amended as follows:
 - (a) in Claim 1, last line, the term "by causing a loss of synchronism" has been changed to -by causing a loss of synchronism of said stepping motor--;
 - (b) in Claim 3, line 2, the term "claim 2" has been changed to --Claim 1--; and
 - (c) similarly, in Claim 7, line 2, the term "claim 2" has been changed to --Claim 1--.
 - (d) in the specification, under the section Brief Description of the Drawings, on page 8, line 7, the term "Fig. 19" has been changed to --Fig. 19A-19H--.
3. Authorization for this examiner's amendment was given in a telephone interview with Mr. Ronald Kananen on November 9, 2007.

Allowable Subject Matter

4. Claims 1, 3-9, 12, 13 and 15-20 are allowable over prior art.

5. The following is an Examiner's statement of reasons for the indication of allowable subject matter based on Applicant's Amendment filed on 9/21/2007:

As in claim 1, the prior art of record fails to teach or fairly suggest a recording/reproducing apparatus having following features:

(a) a tilt mechanism for adjusting tilt angle of the optical pickup device with respect to the optical disk by rotating the pickup chassis with respect to the spindle chassis;

(b) a stepping motor for rotating the pickup chassis with respect to the spindle chassis;

(c) a control circuit for driving the stepping motor to set tilt angle at a predetermined neutral position without a tilt sensor; and

(d) the control circuit drives the stepping motor to obtain a reference position by causing a loss of synchronism.

As in claim 8, the prior art of record fails to teach or fairly suggest an apparatus for adjusting the tilt angle of an optical pickup device having the following features:

(a) a first chassis assembly for rotationally supporting a recording medium driving means and a second chassis for supporting a head device for writing and/or reading information to/from the recording medium;

(b) a tilt drive mechanism mechanically engaged with said second chassis assembly;

(c) control circuitry, having no tilt sensor input, electrically connected to said tilt drive mechanism, said control circuitry outputting a control signal to said tilt drive mechanism; and

(d) the tilt drive mechanism has a cam having a portion mechanically engaged with the stepper motor and a spiral surface mechanically engaged with the second chassis assembly.

As in claim 13, the prior art of record fails to teach or fairly suggest a method of adjusting the tilt angle of an optical pickup device having the following steps:

(a) rotating a drive unit in a first direction until the tilt mechanism reaches a predetermined reference position; and rotating the drive unit in a second direction, opposite to the first direction;

(b) a predetermined number of rotations, thereby positioning the tilt mechanism to the predetermined neutral position; and

(c) the predetermined reference position coincides with a loss of synchronism between an electrically induced magnetic field in the drive unit and a mechanical magnetic field in the drive unit.

The features indicated above, in combination with the other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably **accompany** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Shiomi (6,556,519) is pertinent because Shiomi teaches a tilt cam with a spiral surface.

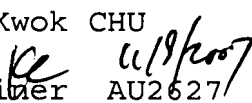
8. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen, can be reached on (571) 272-7579.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).


HOA T. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
11/9/07

Kim-Kwok CHU

Examiner AU2627
November 9, 2007

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